

Date: Friday, 2/23/2007 1:48:16 PM  
 User: Kim Johnston

## Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: MID TUBE ASSEMBLY
Job Number	: 30929		
Estimate Number	: 10469		
P.O. Number	: N/A	Part Number	: D3391023
This Issue	: 2/23/2007	S.O. No.	: N/A
Prsht Rev.	: NC	Drawing Number	: D3391 UNDER REVIEW PA 07.02.26
First Issue	: N/A	Project Number	: N/A
Previous Run	: 30928	Drawing Revision	: E
	Type : LANDING GEAR	Material	: N/A
Written By	:	Due Date	: 3/21/2007
Checked & Approved By	:	Qty:	1 Um: Each
Comment	: Est. A 05.10.20 New Issue KJ/EC		
	: Est. B 06.02.10 ECN773 dwg rev.D EC		

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
---------	-----------------------	---------------

1.0	D25001100	Skidtube Extrusion
-----	-----------	--------------------



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)  
 SKIDTUBE EXTRUSION

Pick:

Qty	Part Number	Description	Batch
1	D2500-1-100	Extrusion	B24593 BE 07.02.28

2.0	LANDING GEAR 1	LANDING GEAR RESOURCE 1
-----	----------------	-------------------------



Comment: LANDING GEAR RESOURCE 1

1-Cut tube to finish length as per Dwg D3391

2-Identify as D3391-023

3-Drill pilot holes using DT8796 as per Dwg D3391

4-Open float bag holes to Ø0.250" as per Dwg D3391 using DT8796D visual aid Jig

5-C'sink float bag holes as per Dwg D3391

6-Open remaining holes to Ø0.375"

7-Remove .030" from Fwd indexing Ridge as per Dwg D3391

8-Remove indexing ridge on Fwd &amp; Aft end of skidtube as per Dwg D3391

9-Deburr

10-Drill #30 pilot holes using wearplate Jig DT8217 Identify Ø0.250" holes with paint marker,

11-Open wearplate holes of D3391-023 assembly detail section G-G to Ø0.250" (14 holes) as per Dwg D3391 and 2 holes in section Detail "J"

012-Open wearplate holes of D3391-023 assembly detail section H-H to Ø0.250" and c'sink (20 holes) as per Dwg D3391

13-Open .375" holes to .438"

14-Deburr and blow out all chips from inside tube

BE 07.02.28

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 2/23/2007 1:48:16 PM

User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: MID TUBE ASSEMBLY

Job Number: 30929

Part Number: D3391023

Job Number:



Seq. #:

Machine Or Operation:

Description :

3.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

DD 7-3-2

4.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

Pm 07-03-05

5.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

BE 07-03-13

6.0

D33891

Web



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEB

Pick:

Qty

Part Number

Description

Batch

1

D3389-1

Web

030790

A/R

Sikaflex-241/-291

M103497

Sikaflex expire date:

07-10-01

Start: 07-03-13 Time: 11:00am

Finish: 07-03-13 Time: 2:00pm

Pm: 07-03-13 (1)

7.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

Bond web in place as per Dwg D3391 &amp; QSI 015.

Adhere for 12 hours)

Pm: 07-03-13 (1)

8.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

HJ

07-03-29 (1)

9.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

M.H

07/03/29 (1)

W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: 42 Date: 07/04/04  
 QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:			WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP		Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
				Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 2/23/2007 1:48:16 PM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: MID TUBE ASSEMBLY

Job Number: 30929

Part Number: D3391023

Job Number:



Seq. #:

Machine Or Operation:

Description :

10.0

NAS1330C3KB116

Insert



Comment: Qty.: 20.0000 Each(s)/Unit Total : 20.0000 Each(s)

Insert

Pick:

Qty	Part Number	Description	Batch
20	NAS1330C3KB116	Insert	m101396

11.0

NAS1330C3KB166

INSERT



Comment: Qty.: 10.0000 Each(s)/Unit Total : 10.0000 Each(s)

RivnuT

Pick:

Qty	Part Number	Description	Batch
10	NAS1330C3KB166	Insert	m100732.

12.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1  
Install inserts as per Dwg D3391

FL

07/03/29 ①

13.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP  
Inspect each insert using DT8821

m

07 03 30

14.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1  
Identify and Stock  
Location: \_\_\_\_\_

PPP

B 30 360

07/4/4

15.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

①  
07/04/04

Job Completion



u 07-04-04

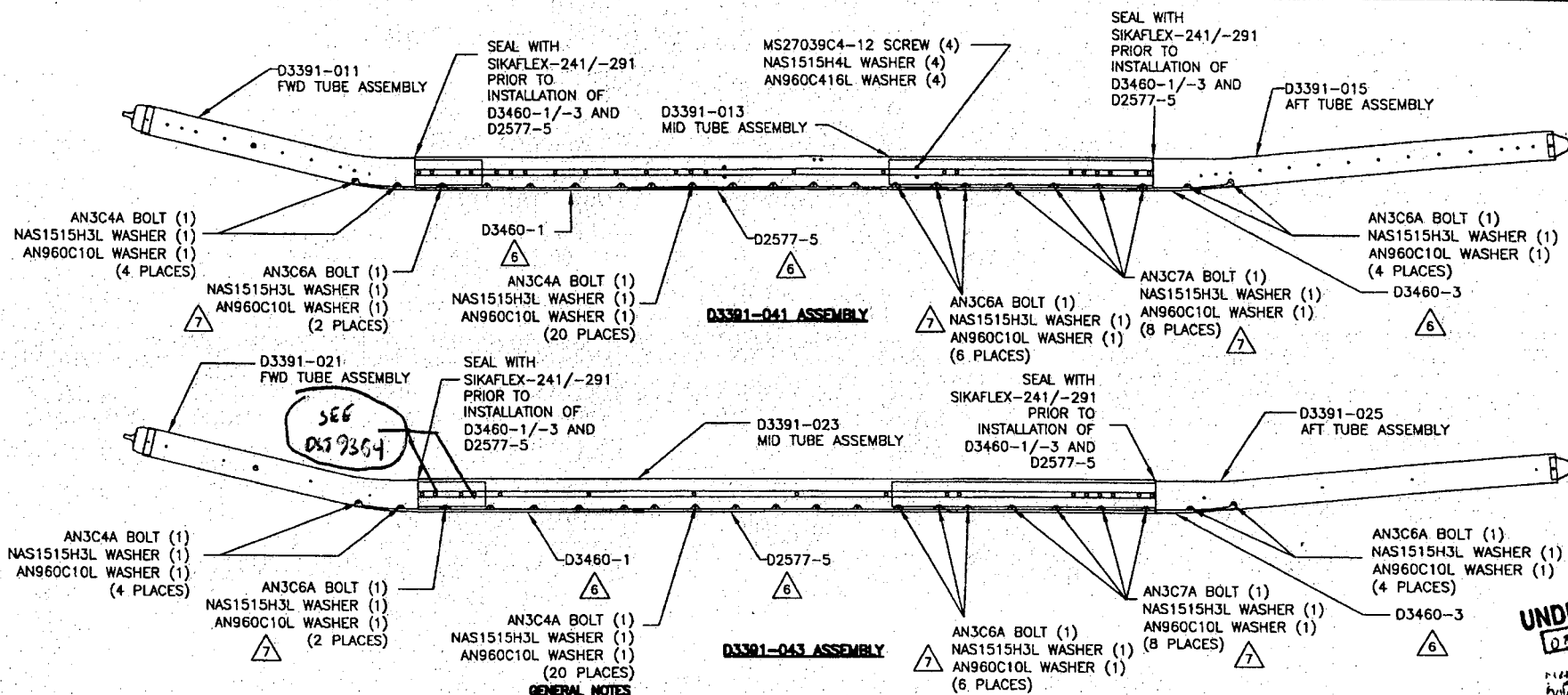
W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:			WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP		Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
				Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



07-02-35  
04  
**UNDER REVIEW**  
02-01-35  
PENDING DETAIL  
holes smaller

**RELEASED**

06-05-03

# **D3391-041/-043 FLOAT SKIDTUBE ASSEMBLY PARTS LIST**

QTY - 041	QTY - 043	PART NUMBER	DESCRIPTION
X	X	D3391-041	FLOAT SKIDTUBE ASSEMBLY
		D3391-043	FLOAT SKIDTUBE ASSEMBLY
1		D3391-011	FWD TUBE ASSEMBLY
1		D3391-013	MID TUBE ASSEMBLY
1		D3391-015	AFT TUBE ASSEMBLY
	1	D3391-021	FWD TUBE ASSEMBLY
	1	D3391-023	MID TUBE ASSEMBLY
	1	D3391-025	AFT TUBE ASSEMBLY
24	24	AN3C4A	BOLT
12	12	AN3C8A	BOLT
8	8	AN3C7A	BOLT
44	44	NAS1515H3L	WASHER
44	44	AN960C10L	WASHER
4		MS27039C4-12	SCREW
4		NAS1515H4L	WASHER
4		AN960C416L	WASHER
1	1	D2577-5	WEARSHOE
1	1	D3480-1	WEARSHOE
1	1	D3480-3	WEARSHOE

- ALL DIMENSIONS ARE IN INCHES
- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- FINISH: ACID ETCH AND ALODINE PER DART QSI 005 4.1  
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY. CLEAN EXCESS OFF POWDER COATING WITH MEX DEGREASER.
- USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL "E" SIZE HOLES (#0.250-#0.257) FOR WEARSHOE INSERTS. C/SINK #0.391/#0.425 x 100" AS APPLICABLE AND INSTALL INSERTS EXCEPT WHERE INDICATED.
- APPLY A LAYER OF SIKAFLEX -241/-291 ADHESIVE BETWEEN THE BOTTOM OF THE SKIDTUBE ASSEMBLY AND THE WEARPLATES
- DO NOT TORQUE, HAND TIGHTEN ONLY

D

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E	06.04.25	CHANGE TOLERANCE, EASE MANUFACTURE
D	06.01.23	UPDATE TOLERANCE, CHANGE HOLE SIZE
C	05.09.27	LENGTHEN AFT EXTENSION
B	05.06.10	DRAWING UPDATES
A	05.02.07	NEW ISSUE
DESIGN	PH	DRAWN BY PH
CHECKED	*	APPROVED *
DATE	06.04.25	TITLE
		412 FLOAT SKIDTUBE
		SCALE
		NTS

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FORT HADCOCK, VA

DRAWING NO. D3391

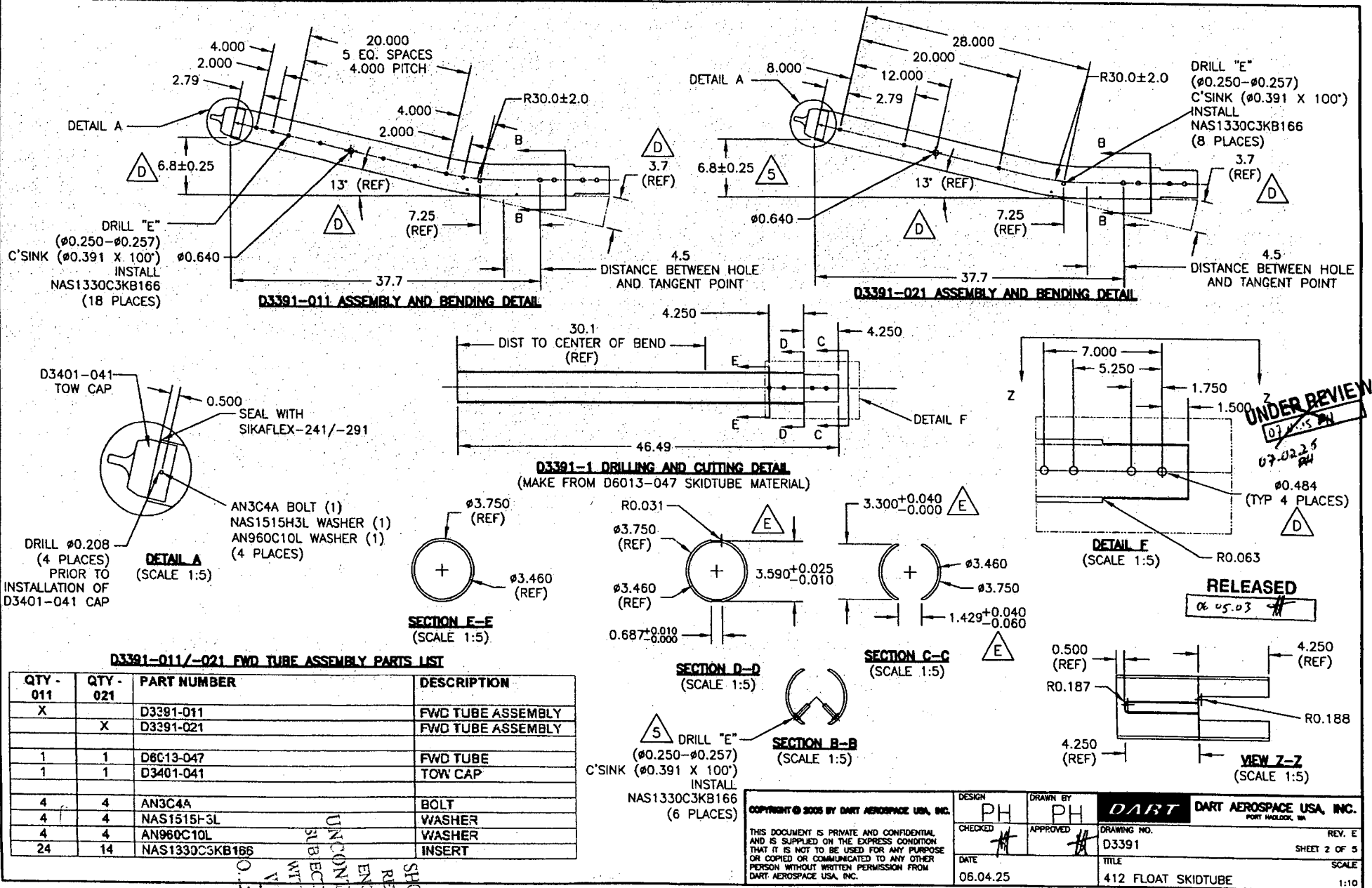
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SHEET 1 OF 5

SCALE

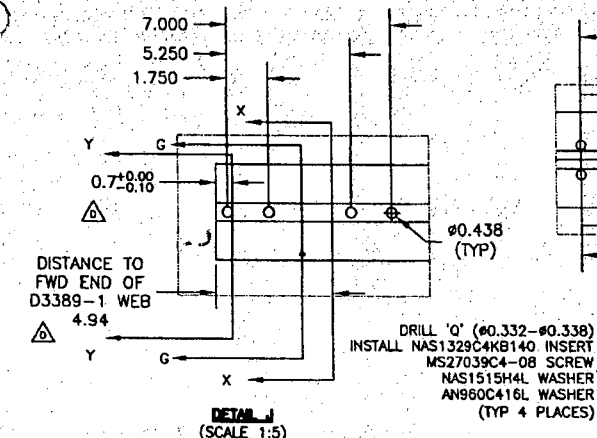
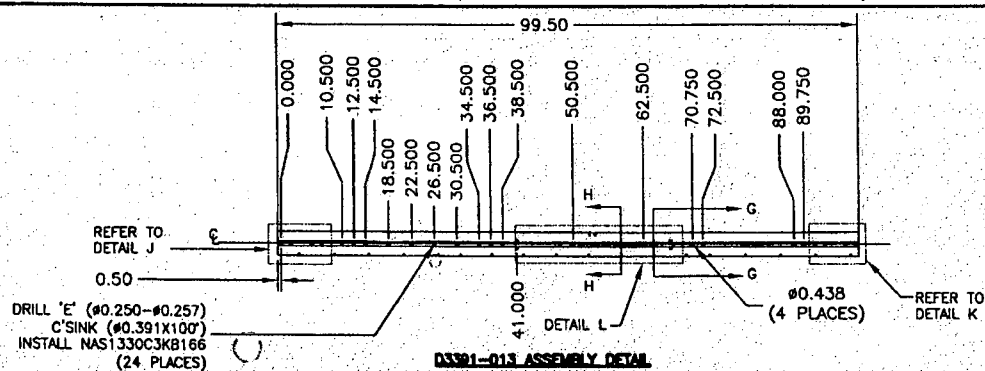
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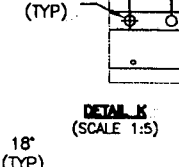
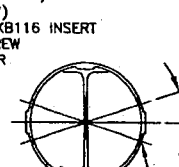
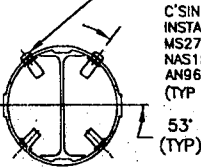
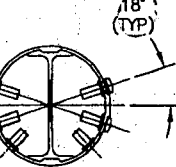
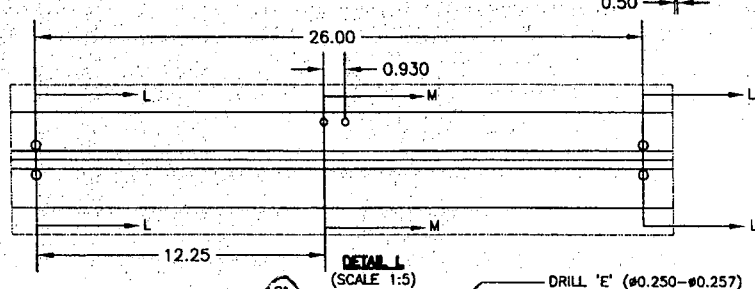








DRILL 'O' (#0.332-#0.338)  
INSTALL NAS1329C4KB140 INSERT  
MS27039C4-08 SCREW  
NAS1515H4L WASHER  
AN960C416L WASHER  
(TYP 4 PLACES)



DISTANCE TO END OF WEB  
4.19 (REF)

# D3391-013/-023 MID TUBE ASSEMBLY PARTS LIST

QTY - 013	QTY - 023	PART NUMBER	DESCRIPTION
X	X	D3391-013	MID TUBE ASSEMBLY
		D3391-023	MID TUBE ASSEMBLY
1	1	D2500-1-100	EXTRUSION
1	1	D3389-1	WEB
24	20	NAS1330C3KB116	INSERT
24	10	NAS1330C3KB166	INSERT
4		NAS1329C4KB140	INSERT
4		NAS1515H3L	WASHER
4		AN960C10L	WASHER
4		NAS1515H4L	WASHER
4		AN960C416L	WASHER
4		MS27039C4-08	SCREW
4		MS27039C4-08	SCREW

## D3391-013/-023 MID TUBE ASSEMBLY

1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION

2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER OSI 015

SECTION L-L  
(SCALE 1:4)



SECTION X-X  
(SCALE 1:2)

REMOVE 0.225 FROM TOP AND BOTTOM TO 3.800 (0.7 FROM BOTH ENDS)



SECTION Y-Y  
(SCALE 1:4)



SECTION G-G  
(SCALE 1:4)



SECTION H-H  
(SCALE 1:4)

NAS1330C3KB116 INSERT (TYP 20 PLACES)

UNDER REVIEW  
02.02.25  
PH

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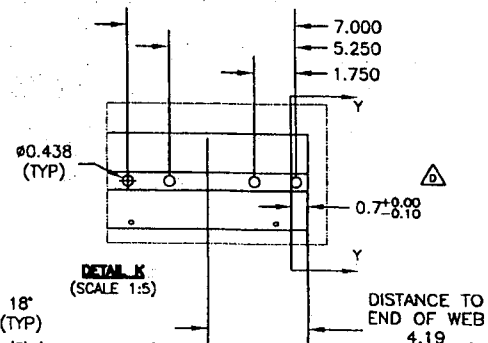
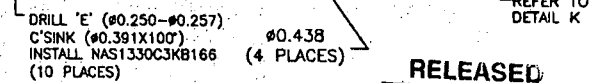
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CHECKED	#	APPROVED	#	DRAWING NO. D3391	SHEET 3 OF 5
DATE	06.04.25	TITLE	412 FLOAT SKIDTUBE	SCALE	1:20

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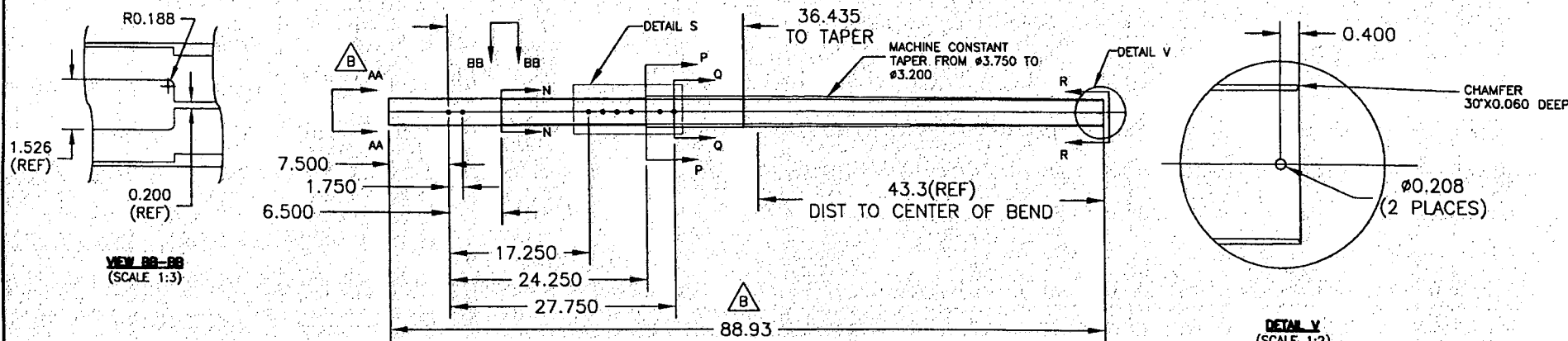
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## D3391-023 ASSEMBLY DETAIL

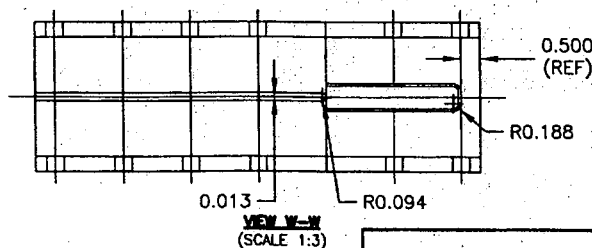
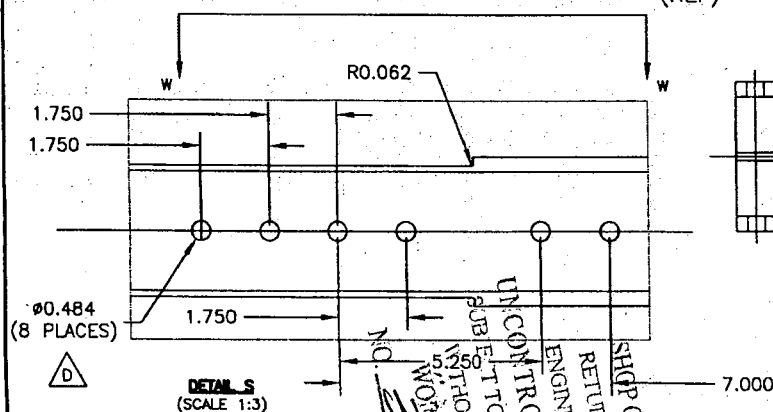
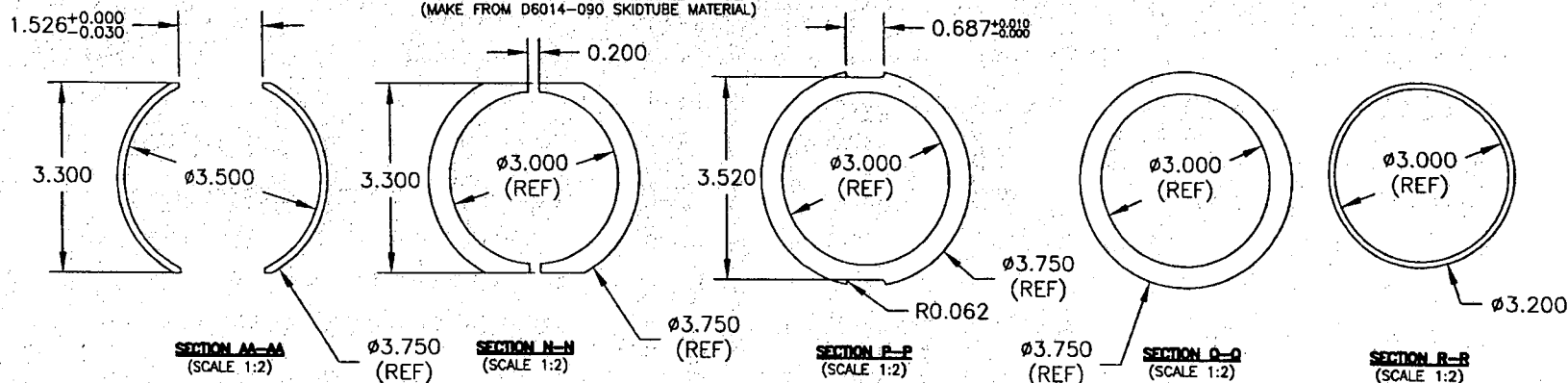


NAS1330C3KB116 INSERT (TYP 20 PLACES)

UNDER REVIEW  
02.02.25  
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D3391-3 AFT DRILLING AND CUTTING DETAIL  
 (MAKE FROM D6014-090 SKIDTUBE MATERIAL)



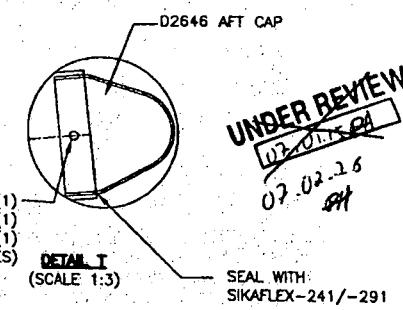
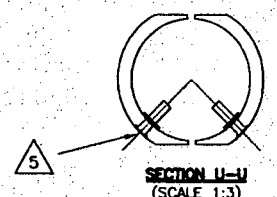
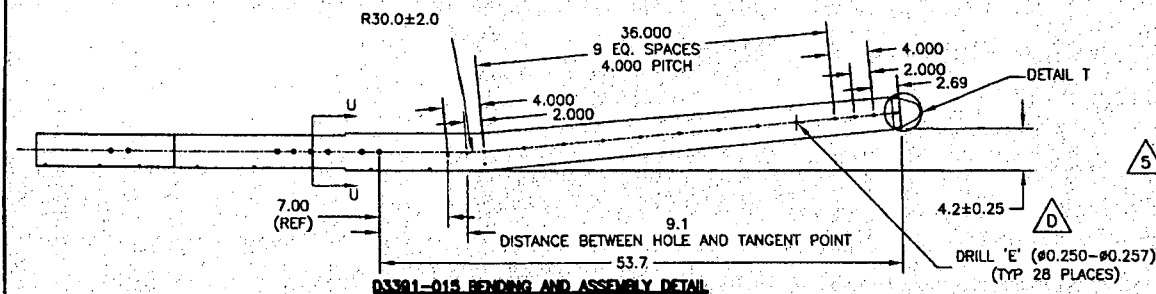
07.02.26 RH  
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 07.01.25 DILL

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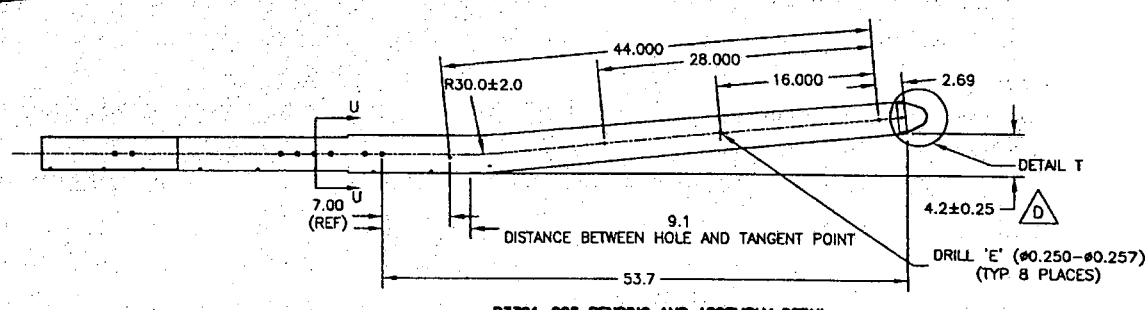
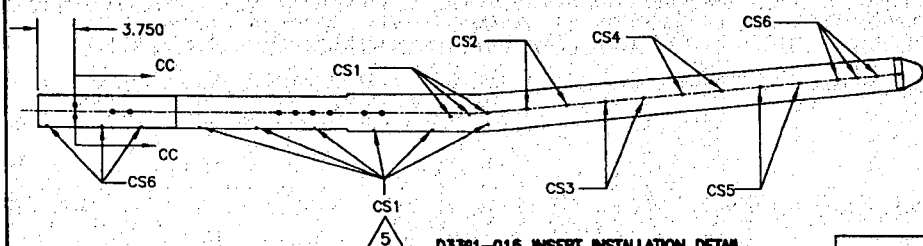
26 05.03

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		CHECKED	APPROVED	DRAWING NO. D3391	SHEET 4 OF 5
		DATE		TITLE 412 FLOAT SKIDTUBE	
		06.04.25			SCALE 1:12

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**UNDER REVIEW**  
02.01.2004  
07.02.26  
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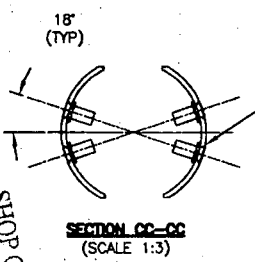


C'SINK AND INSTALL AESS10KBXXX AND/OR NAS1330C3KBXXX IN HOLES MARKED CS1-CS6 AS FOLLOWS

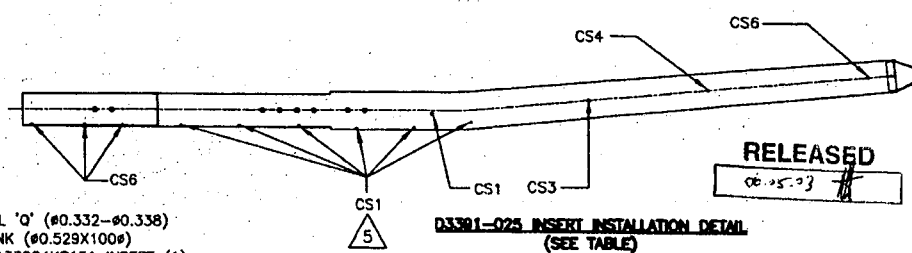
HOLE MARKED	QTY D3391-015	QTY D3391-025	C'SINK	P/N
CS1	18	14	Ø0.425	AESS10KB396
CS2	2		Ø0.391	AESS10KB396
CS3	2	2	Ø0.391	NAS1330C3KB316
CS4	2	2	Ø0.391	NAS1330C3KB266
CS5	2		Ø0.391	NAS1330C3KB216
CS6	12	8	Ø0.391	NAS1330C3KB166

**D3391-015/-025 AFT TUBE ASSEMBLY PARTS LIST**

QTY - 015	QTY - 025	PART NUMBER	DESCRIPTION
X		D3391-015	AFT TUBE ASSEMBLY
	X	D3391-025	AFT TUBE ASSEMBLY
1	1	D6014-090	AFT TUBE
1	1	D2646	AFT CAP
10	14	AESS10KB396	INSERT
4	2	NAS1330C3KB316	INSERT
4	2	NAS1330C3KB266	INSERT
4		NAS1330C3KB216	INSERT
12	8	NAS1330C3KB166	INSERT
4		NAS1330C4KB151	INSERT
2	2	AN3C4A	BOLT
2	2	NAS1515H3L	WASHER
2	2	AN960C10L	WASHER



DRILL 'Q' (#0.332-#0.338)  
C'SINK (#0.529X100#)  
NAS1330C4KB151 INSERT (1)  
(4 PLACES)



**RELEASED**  
06.05.23

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CHECKED	APPROVED	DRAWING NO. D3391		REV. E
DATE 06.04.25	TITLE 412 FLOAT SKIDTUBE		SHEET 5 OF 5	
			SCALE 1:12	

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